conditions result in so vigorous a development of the flowers that the enveloping scales are burst.—J. M. C.

Morphology of Gnetum.—PEARSON[28] has contributed much to our knowledge of *Gnetum*, a genus so suggestive of a relationship to angiosperms as to deserve the most critical study. The present paper is a well organized summary of the known facts in reference to the genus, and while the argument for angiosperm affinity is not convincing, it shows that the case is still open. PEARSON sees in the behavior of the fusing nuclei of *Welwitschia* and *Gnetum* too much suggestion of the behavior of the polar nuclei in angiosperms to be passed over lightly. As the author remarks, "while the whole question is involved in much obscurity, it is surely not desirable at the present stage of inquiry that the search for a primitive type of endosperm, from which that of the angiosperm may be derived, should cease." Aside from the phylogenetic discussion, the paper analyzes the observed facts and theories in reference to the strobilus or "spike" of *Gnetum* in a most suggestive way.—J. M. C.

Temperature of leaves in winter.—Using careful methods of determining differences of temperature by an electrical apparatus, EHLERS,[29] working at Ann Arbor, Michigan, upon *Pinus Laricio*, found that the leaves through the absorption of radiant energy maintain during the winter temperatures of 2–10° C. higher than the surrounding air. For the month of February, 650 readings taken between the hours of 8:00 A.M. and 3:00 P.M., under all kinds of weather conditions, including both cloudy and bright days, gave an average differential temperature of 3°.06 C. Increased photosynthetic activity resulting from such increases in temperature would seem to be of considerable importance, and would tend to explain the presence and accumulation of the reserve food material found in evergreen leaves in winter by various workers. EHLERS was unable, however, to obtain any conclusive evidence of carbohydrate formation during the months of January and February.—GEO. D. FULLER.

Structure of Alaria.—In a recent publication of the Puget Sound Marine Station, Miss KIBBE[30] describes the structure of *Alaria fistulosa*. In many features she finds a close resemblance to other Laminariaceae. The chief purpose of the paper is to trace the development of the fistulose or chambered character of the midrib. Severe strain during growth, resulting from continued transverse and radial division of cortical cells after the cells of the medulla

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[28] PEARSON, H. H. W., Notes on the morphology of certain structures concerned in reproduction in the genus *Gnetum*. Trans. Linn. Soc. London **8**:311–332. *pl. 31, 32*. 1915.

[29] EHLERS, J. H., The temperature of leaves of *Pinus* in winter. Amer. Jour. Bot. **2**:32–70. 1915.

[30] KIBBE, ALICE L., Some points in the structure of *Alaria fistulosa*. Puget Sound Marine Sta. Publ. **1**:43–57. *pls. 8, 9*. 1915.